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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,890	05/19/2006	Hiroaki Murase	041230-0310213	6561

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PILLSBURY WINTHROP SHAW PITTMAN, LLP
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MCLEAN, VA 22102

EXAMINER

GALE, KELLETTE

ART UNIT	PAPER NUMBER
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1621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/501,890	MURASE ET AL.	
	Examiner	Art Unit	
	Kellette Gale	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>May 19, 2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102 or 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takahashi et al (JP 08217713).

Takahashi et al disclose a process wherein florenone is reacted with phenol using $\text{HS}(\text{CH}_2)_2\text{CO}_2\text{H}/\text{HCl}$ as a catalyst. The reaction mixture is then mixed with diisopropylbiphenyl, distilled, and recrystallized from MeCN to give 9,9-bis(4-hydroxyphenyl) fluorene derivatives with 99.3% purity. If Takahashi et al discloses the weight ratios as exemplified in the claims then this is a 102(b) rejection. If Takahashi et al does not disclose then this is a 103(a) rejection because merely modifying the process conditions such as temperature and concentration is not a patentable modification absent a showing of criticality. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahasi et al in view of Shinagawa et al (JP 09124530).

Applicant claims a method for producing a fluorene derivative which comprises subjecting fluorenone and a phenolic compound to a condensation reaction in coexistence with a mercaptocarboxylic acid and a hydrochloric acid to obtain a fluorene derivative, adding to the resulting condensation reaction mixture to distribute the object compound to the organic layer, and a crystallization solvent is added to the organic layer to crystallize the fluorene derivative wherein the phenol compound comprises 2-C₁₋₄ alkylphenol or a 3 C₁₋₄alkylphenol and the fluorene derivative comprises 9,9-bis (C₁₋₄alkylhydroxyphenyl) fluorene.

Determination of the scope and content of the primary reference

(MPEP §2141.01)

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Takahashi et al is as applied above.

Ascertainment of the difference between the prior art and the claims

(MPEP §2141.02)

Takahashi et al does not teach a process wherein there is an alkyl group on the phenol used in the reaction.

Determination of the scope and content of the secondary reference

(MPEP §2141.01)

Shinagawa et al teaches a similar process as applied above wherein 2-methyl phenol is used in the reaction (please see RX (3) of the CAS online STN abstract).

Finding of prima facie obviousness

Rational and Motivation (MPEP §2142-2143)

One having ordinary skill in the art would find it obvious to utilize an alkylated phenol compound in order to prepare a fluorene derivative as set forth in the claims having noted the reactions exemplified in Takahashi et al and Shinagawa et al. One having ordinary skill in the art at the time of the present invention would be motivated to do so with a reasonable expectation of success as Takahashi et al and Shinagawa et al have done so successfully.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kellette Gale whose telephone number is (571) 272-8038. The examiner can normally be reached on M-F (6:30am-3:00pm).

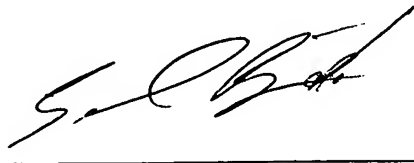
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kellette Gale
Patent Examiner
Technology Center 1600

March 1, 2007



Samuel Barts, Ph.D.
Primary Patent Examiner
Technology Center 1600